



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/763,109
Filing Date: January 22, 2004
Applicant: David M. Allen
Group Art Unit: 3673
Examiner: Lisa M. Saldano
Title: ROOT NUTRIENT DELIVERY SYSTEM
Attorney Docket: 2646-000002

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Commissioner for Patents
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APPEAL BRIEF

Sir:

This is an appeal brief in support of an appeal from the January 26, 2005
final rejection of Claims 1 through 21.

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REAL PARTY IN INTEREST

David M. Allen, being the sole inventor of the present application, is the real party in interest.

RELATED APPEALS & INTERFERENCES

To the best of Appellant's knowledge, no other appeals or interferences are pending which will directly affect or be directly affected by or have a bearing on the Board's decision in the present pending appeal.

STATUS OF THE CLAIMS

On February 3, 2005, Appellant appealed from the final rejection of Claims 1 through 21. The Examiner has objected to Claims 3, 11, 15 and 17 as depending on a rejected base claim but has indicated that these claims would be allowable if re-written in an independent form that includes all of the limitations of the base claim and any intervening claims.

A copy of the claims at issue is provided in attached Appendix A.

A copy of the Office Action mailed January 26, 2005 placing the present application under final rejection is provided in attached Appendix B.

A copy of U.S. Patent No. 5,975,797 to Thomas et al is provided in attached Appendix C.

A copy of U.S. Patent No. 3,900,962 to Chan is provided in attached Appendix D.

A copy of U.S. Patent No. 3,159,172 to Baxter is provided in attached Appendix E.

A copy of U.S. Patent No. 5,924,240 to Harrison is provided in attached Appendix F.

A copy of U.S. Patent No. 6,540,436 to Ogi is provided in attached Appendix G.

A copy of U.S. Patent No. 271,089 to Lynch is provided in attached Appendix H.

A copy of U.S. Patent No. 1,280,486 to Kanst is provided in attached Appendix I.

STATUS OF AMENDMENTS

No amendment to the claims has been filed or is pending subsequent to the entry of the final rejection.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Claim 1

Claim 1 is directed to a system for directing water, nutrients and air to the root system (14; page 4, line 9; Fig. 1) of a plant (16; page 4, line 10; Fig. 1) that is planted in the ground (12; page 4, line 9; Fig. 1). The system includes a delivery unit (10; page 4, line 8; Fig. 1) having an elongated, hollow housing (20; page 4, line 11; Fig. 2), a plurality of deflectors (22; page 4, line 11; Fig. 6), an upper flange (24; page 4, line 11; Fig. 2) and a lower flange (26; page 4, line 12; Fig. 2). The

housing (20) is adapted to be installed in a generally vertical orientation (see, e.g., Fig. 1) into the ground (12) proximate the root system (14) and includes a wall member (34; page 4, line 13; Fig. 2) that defines an internal cavity (36; page 4, line 13; Fig. 6) with an open top (30, page 4, line 12; Fig. 2) and an open bottom (32; page 4, line 13; Fig. 2). The wall member (34) is configured to permit water and air to be transmitted therethrough at least at a plurality of discrete points (see, e.g., page 4, lines 13-16, Fig. 6). The deflectors (22) are spaced about a perimeter of the internal cavity (36) and are configured to capture at least a portion of a quantity of water poured into the open top (30) when the delivery unit (10) is installed in the ground (12). The deflectors (22) are further configured to direct the captured water outwardly toward the wall member (34) so that it may be passed therethrough. The upper flange (24) extends outwardly from the housing (20) proximate the open top (30), while the lower flange (26) is coupled to the housing (20) and extends outwardly and upwardly from therefrom.

Claim 16

Independent Claim 16 is directed to a delivery unit (10; page 4, line 8; Fig. 1) for directing water, nutrients and air to a root system (14; page 4, line 9; Fig. 1) of a plant (16; page 4, line 10; Fig. 1) in the ground (12; page 4, line 9; Fig. 1). The delivery unit (10) includes an elongated, hollow housing (20; page 4; line 11; Fig. 2) and a plurality of deflectors (22; page 4, line 11; Fig. 6). The housing (20) is adapted to be installed in a generally vertical orientation into the ground (12) proximate the root system (14) and includes a wall member (34; page 4, line 13;

Fig. 2) that defines an internal cavity (36; page 4, line 13; Fig. 6) with an open top (30; page 4, line 12; Fig. 2) and an open bottom (32; page 4, line 13; Fig. 2). The wall member (34) is configured to permit water and air to be transmitted therethrough at least at a plurality of discrete points (see, e.g., page 4, lines 13-16, Fig. 6). The deflectors (22) are spaced about a perimeter of the internal cavity (36) and are configured to capture at least a portion of a quantity of water poured into the open top (30) when the delivery unit (10) is installed in the ground (12) and to then direct the captured water outwardly toward the wall member (34) so that it may be passed therethrough.

Claim 21

Independent Claim 21 is directed to a delivery unit (10; page 4, line 8; Fig. 1) for directing water, nutrients and air to a root system (14; page 4, line 9; Fig. 1) of a plant (16; page 4, line 10; Fig. 1) in the ground (12; page 4, line 9; Fig. 1). The delivery unit (10) includes an elongated, hollow housing (20; page 4; line 11; Fig. 2), an upper flange (24; page 4, line 11; Fig. 2) and a lower flange (26; page 4, line 12; Fig. 2). The housing (20; page 4; line 11; Fig. 2) is adapted to be installed in a generally vertical orientation into the ground (12) proximate the root system (14) and includes a wall member (34; page 4, line 13; Fig. 2) that defines an internal cavity (36; page 4, line 13; Fig. 6) with an open top (30; page 4, line 12; Fig. 2) and an open bottom (32; page 4, line 13; Fig. 2). The wall member (34) is configured to permit water and air to be transmitted therethrough at least at a plurality of discrete points (see, e.g., page 4, lines 13-16, Fig. 6). The upper flange (24; page 4, line 11;

Fig. 2) extends outwardly from the housing (20) proximate the open top (30), while the lower flange (26; page 4, line 12; Fig. 2) is coupled to the housing (20) and extends outwardly and upwardly from therefrom.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Appellants present the following issues for review:

Whether or not Claims 1, 2, 4 through 7, 12, 14 and 18 through 20 are unpatentable under 35 U.S.C. 103(a) over U.S. Patent No. 5,975,797 to Thomas et al. in view of U.S. Patent No. 3,900,962 to Chan, U.S. Patent No. 3,159,172 to Baxter, and U.S. Patent No. 5,924,240 to Harrison.

Whether or not Claim 8 is unpatentable under 35 U.S.C. 103(a) over U.S. Patent No. 5,975,797 to Thomas et al. in view of U.S. Patent No. 3,900,962 to Chan, U.S. Patent No. 3,159,172 to Baxter, U.S. Patent No. 5,924,240 to Harrison and U.S. Patent No. 6,540,436 to Ogi.

Whether or not Claims 9 and 10 are unpatentable under 35 U.S.C. 103(a) over U.S. Patent No. 5,975,797 to Thomas et al. in view of U.S. Patent No. 3,900,962 to Chan, U.S. Patent No. 3,159,172 to Baxter, U.S. Patent No. 5,924,240 to Harrison, U.S. Patent No. 6,540,436 to Ogi and U.S. Patent No. 271,089 to Lynch.

Whether or not Claim 13 is unpatentable under 35 U.S.C. 103(a) over U.S. Patent No. 5,975,797 to Thomas et al. in view of U.S. Patent No. 3,900,962 to Chan, U.S. Patent No. 3,159,172 to Baxter, U.S. Patent No. 5,924,240 to Harrison and U.S. Patent No. 1,280,486 to Kanst.

Whether or not Claim 16 is unpatentable under 35 U.S.C. 103(a) over U.S. Patent No. 5,975,797 to Thomas et al. in view of U.S. Patent No. 3,900,962 to Chan and U.S. Patent No. 3,159,172 to Baxter.

Whether or not Claim 21 is unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 5,975,797 to Thomas et al. in view of U.S. Patent No. 5,924,240 to Harrison.

ARGUMENTS

Claims 1, 2, 4 through 7, 12, 14 and 18 through 20: Rejections Based on Thomas et al., Chan, Baxter & Harrison

Appellant initially notes that the Thomas et al. reference (hereinafter Thomas) is directed to a water collection unit and distribution unit (10). While Thomas mentions the collection and re-direction of both water and air, the unit (10) is illustrated as being buried beneath the ground level of the soil (see Fig. 14) and is described as including an insert (24) that is formed of an open cell foam or structural non-woven material. Appellant notes that construction and installation of the unit (10) in this manner significantly inhibits air flow into the unit (10) and therefore aeration of the surrounding soil.

In the Final Office Action at page 2, line 15, the Examiner notes that Thomas states that “[in an alternate] embodiment of the present invention, the porous insert member 24 is omitted” and thus appears to contend that through omission of the insert (24), the Thomas et al. reference provides “a hollow elongated housing” as is recited in each of Appellant’s independent claims. In the Final Office Action at page

2, lines 1 and 2, however, the Examiner further notes that “[the] optional insert member, when used, is located in the internal cavity and is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant” and thus appears to contend that the insert (24) of the Thomas et al. reference is employed to capture water.

Appellant submits that the Examiner’s analysis is incorrect in that the insert (24) must either be omitted from the Thomas device for the entirety of the analysis of Appellant’s claims, or must be included in the Thomas device for the entirety of the analysis of Appellant’s claims. Stated another way, it is improper to evaluate only a portion of Appellant’s claim with the insert member (24) being omitted from the Thomas device and thereafter evaluating the remainder of Appellant’s claim while including the insert member (24) in the Thomas device.

If the insert member (24) were to be included in the Thomas device when considering Appellant’s claims, Appellant notes that the Thomas device would not employ an elongated hollow housing. If the insert member (24) were to be excluded from the Thomas device (i.e., the alternate optional configuration), Appellant notes that the Thomas device would not have any means for capturing water that was poured into the top of the housing. Appellant notes, too, that the Thomas device does not teach or suggest deflectors, an upper flange or a lower flange.

Appellant next notes that the Chan reference (hereinafter Chan) is directed to a ground fertilizing device. The device includes a water tube (24), an air tube (30), a water deflector (26), a housing (36) and an outlet section (44) having an

internal support pipe (28) onto which a plurality of disc distributors (46) are mounted. The water deflector (26), which is disposed within the housing (36), is conically shaped and coupled to the air tube (30). The Chan reference does not characterize the water deflector (26) as being sealingly engaged to the housing (36) and as such, water that is dispensed from the water tube (24) is either deflected radially outwardly by the water deflector (26) toward an aperture (34) in the housing (36) or falls into an annular cavity that is formed between the support pipe (28) and an inner wall of the housing (36). Water exiting the aperture (34) enters a cavity between the inner and outer walls of the housing (36) that may house a porous container of fertilizer (38). Apertures (42, 43) are formed through a lower end of the housing (36). The apertures (43) are formed in the outer wall of the housing (36) and permit fertilizer to be dispensed to the surface of the soil surrounding the device, while the apertures (42) are formed in the inner wall of the housing (36) and permit fertilizer to be dispensed into the annular cavity between the support pipe (28) and the inner wall of the housing (36). The disc distributors (46) appear to be conically shaped, with an upper end that is fixedly coupled to the internal support pipe (28) and a lower end that is disposed proximate a pipe (50) that is intermediate the internal support pipe (28) and an outer apertured pipe (48). As described at column 2, lines 20 through 24 of Chan, "the fertilizer fluid deflected from the disc distributors 46 passes first through the apertures 52 and runs down the pipe 50 before exiting into the ground through the outer apertures 54." Accordingly, neither the deflector (26)

nor the disc distributors (46) capture water, let alone direct captured water outwardly toward a wall member so that it may be passed therethrough.

Appellant notes that the Baxter reference (hereinafter Baxter) is directed to a sprinkler system that employs a plurality of hydrants (9) that are interconnected to a main supply conduit (10) through which pressurized water flows. A wall (35) is disposed within the interior area of each hydrant (9) and extends generally transverse to the longitudinal axis of the hydrant (9). A hollow pipe, which is described in the '172 patent as being an upper discharge end (49), extends through the wall (35) and couples a reservoir compartment (47) with a lower inlet compartment (46). An o-ring (38) is employed to seal the interface between the wall (35) and the upper discharge end (49). Frictional engagement provided by the o-ring (38) is employed to permit the height with which the upper discharge end (49) extends above the wall (35) to be adjusted. The upper discharge ends (49) of the hydrants (9) may be adjusted so that they each discharge a desired amount of water (see, e.g., column 4, line 73 through column 5, line 12).

Appellant further notes that the Harrison reference (hereinafter Harrison) is directed to a device for watering and fertilizing plants. The device includes a cylindrical tube (2) that is closed at one end by a cap (8). Two holes (10) are formed through the wall of the cylindrical tube (2) that are of a sufficiently small diameter (i.e., on the order of about 5/64 inch or 2mm) so as to allow only a trickle of water flow therethrough. Harrison indicates at column 3, lines 25 through 31 that "the suitable diameter for the holes 10 through the tube 2 is on the order of 5/64 inches" or about 2mm and that "no more than two holes should

be present in the sidewall of the tube 2.” Accordingly, the device of Harrison is not suited to aerating and does not include any structure that captures water or directs captured water outwardly through a wall member.

In contrast, Claim 1 is directed to a delivery unit having a housing, a plurality of deflectors, an upper flange and a lower flange. The housing is hollow to promote aeration. The deflectors are configured to “capture water...poured into the open top” and to direct the captured water outwardly toward the wall member so that it may be passed therethrough. The upper flange extends outwardly from the housing proximate the open top and is configured to prevent the delivery unit from sinking beneath ground level over time. The lower flange is coupled to the housing and extends outwardly and upwardly therefrom and prevents the soil from heaving the delivery unit (i.e., pushing the delivery unit out of the ground – heaving is a known phenomenon that is caused by successive freezing and thawing cycles).

A) Non-Analogous Art

In view of the above, Appellant respectfully submits that the Office has not presented a *prima facie* case of obviousness. In this regard, the Baxter ‘172 patent is directed to a sprinkler system of a type that inundates an area by delivering pressurized water to a plurality of hydrants. Accordingly, the Baxter reference does not disclose a device for directing water, nutrients and air to a root system, nor does it relate to the field of the present invention or a field reasonably pertinent to the resolution of the problem being solved by the present invention. Consequently, the Baxter device is not analogous art and cannot be

properly combined with Thomas or cited as prior art. *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992).

However, even if Baxter were classified as analogous art, the combination of Baxter, Harrison and Chang with Thomas would still be improper. The establishment of a *prima facie* case of obviousness requires that three basic criteria be met: 1) some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings, 2) that there must be a reasonable expectation of success, and 3) that the prior art reference or references must teach or suggest all the claim limitations. *See, e.g., In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Moreover, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on an applicant's disclosure. *Id.*

B) Suggestion or Motivation

Regarding the suggestion or motivation to modify the Thomas with the several cited references, Appellant notes that the Federal Circuit has cautioned that one cannot "pick and choose among individual parts of assorted prior art references to recreate a facsimile of the claimed invention." *Akzo N.V. v. U.S. Int'l Trade Comm'n*, 808 F.2d 1471, 1481, 1 USPQ2d 1241, 1246 (Fed. Cir. 1986) (quoting *W.L. Gore & Assocs., Inc. v. Garlock*, 721 F.2d 1540, 1552, 220 USPQ 303, 312 (Fed. Cir. 1983)). Appellant submits, however, the Examiner has not explained how the various elements of the several prior art references

might be employed to re-create the present invention or why one of ordinary skill in the art would have found such modifications to be desirable. Accordingly, Appellant submits that the Examiner has impermissibly picked and chosen elements from amongst the prior art references to re-create Appellant's invention.

Concerning the combination of Thomas and Chan, the Examiner has stated that "[it] would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al. to incorporate [a] deflector for delivering water and nutrients to earth as taught by Chan." Appellant notes, however, that nowhere in the Final Office Action does the Examiner describe how the deflectors of Chan would be incorporated into the Thomas device. For example, is the Examiner suggesting that where the insert (24) is employed in the Thomas device, the deflectors (26) of Chan may be embedded into the insert (24), or is the Examiner suggesting that where the insert (24) is omitted from the Thomas device, the deflectors (26) of Chan may be sized to fit into the interior of the Thomas device? Given the ambiguity of the Examiner's position, it is apparent that the Examiner has impermissibly picked and chosen amongst prior art references to recreate a facsimile of the claimed invention.

Appellant further notes that the Federal Circuit has stated that "[the] mere fact the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification". *In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992) (citing *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125,

1127 (Fed. Cir. 1984)). In the Final Office Action at page 4, lines 1 through 11, the Examiner state only that the combination of Thomas and Chan would have been obvious; no where does the Examiner express the desirability of this combination. Accordingly, it appears as though the motivation to combine Thomas and Chan is impermissibly found in Appellant's disclosure.

Concerning the Baxter reference, Appellant again asserts that it is not analogous art and as such, cannot be cited as prior art or combined with Thomas. Appellant also notes that the Examiner has not shown that the art suggests the desirability of the combination of Baxter with Thomas and Chan. In this regard, the Examiner has stated that:

[it] would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al. to incorporate the plurality of deflector devices, as taught by Chan, and the capture and delivery deflector feature, as taught by Baxter, because all three inventions are directed to the delivery of water and/or nutrients to a body of earth adjacent plant roots. Each [of the] inventions illustrates a different way to deliver water to plant roots in the ground, thereby providing sufficient motivation to substitute and/or combine either of the inventions' methods of fluid delivery with each other.

Final Office Action, page 5, lines 1 through 7. As noted above, the Federal Circuit has stated that "[the] mere fact the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification". *In re Fritch*, 972 F.2d at 1266. Appellant submits that rather than being desirable, the modification proposed by the Examiner is undesirable. Appellant submits that water poured into the Thomas device is directed via a funnel member 40 into the center of the Thomas device. As such, if the wall elements 35 and 49 of Baxter were to be incorporated into the Thomas device, water exiting the funnel member 40 would be directed into the center of the unit and would thus by-pas the wall

element 35. Moreover, incorporation of the wall element 35 into the Thomas device would appear to significantly impair movement of air within the device and as such, would negatively affect aeration.

Concerning the Harrison reference, the Examiner has stated:

[it] would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al. to include the upper and lower flanges, as taught by Harrison, because the flanges extend outwardly of the housing disclosed by Harrison and thereby help to retain and maintain the water and fluid nutrients emitted by the delivery housing within a particular zone around the housing, preferably a predetermined area of soil in a root zone of existing plants.

Final Office Action, page 5, lines 12 through 17. Appellant notes that the Harrison reference utilizes conventional PVC pipes and coupling components to form a watering and fertilizing device. The upper end of the device includes a reducing adapter (4) the top end of which is installed at ground level (G), while the lower end of the device is closed with a cap (8).

As noted above, the Federal Circuit has stated that “[the] mere fact the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification”. *In re Fritch*, 972 F.2d at 1266. Appellant notes that column 6, lines 38 through 42 of Thomas discusses the construction of the bottom of the Thomas device and states that a plurality of apertures are included to increase the flow of water and air to and from within the device. Accordingly, the motivation to place a closed cap over the bottom end of the Thomas device does not appear to be a desirable modification having its genesis in the prior art. Similarly, while the reducing adapter could be mounted to the top of the Thomas device, there appears to be no purpose for this modification.

In view of the above remarks, Appellant submits that the Examiner has not provided any suggestion or motivation in the art to combine Chan, Baxter or Harrison with Thomas.

C) Reasonable Expectation of Success

Concerning the reasonable expectation of success, Appellant notes that the Examiner has not provided any insight as to how the various elements of Chang, Baxter and Harrison might be incorporated into the Thomas device. Rather, the Examiner has simply provided a listing of elements and stated that these elements could be incorporated into the Thomas device. Because the Examiner has provided no clear indication of how the Thomas device would be modified (e.g., insert member 24, deflectors 26), Appellant submits that the Examiner has not established a reasonable expectation of success.

D) All Elements

Concerning the teaching or suggesting of all claim elements, Appellant notes that several claim elements are not taught or suggested by the cited combination of references. For example, the combination does not employ an upper flange that extends outwardly from the open top of the housing; or a lower flange that is coupled to the housing and which extends both outwardly and upwardly therefrom; or a plurality of deflectors that are spaced about a perimeter of the internal cavity; or a plurality of deflectors that are configured to capture water; or a plurality of deflectors that direct captured water outwardly toward a wall member.

E) Conclusion

In view of the above remarks, Appellant respectfully submits that there is no motivation or suggestion in the art for the cited combination of references, that the Examiner has not provided a reasonable expectation of success, and that the cited combination of references does not teach or suggest each and every one of the limitations of Claim 1. Accordingly, Applicant respectfully submits that the Examiner has not provided a *prima facie* case of obviousness and as such, the rejection of Claim 1 under 35 U.S.C. 103(a) cannot stand.

Appellant notes that Claims 2 through 15 depend from Claim 1 and thus should be in condition for allowance for the reasons set forth for Claim 1, above. Additionally, Appellant submits the remarks, below, in support for allowance of several dependent claims:

- Claim 3: Although the Examiner has indicated that Claim 3 includes allowable subject matter, Appellant notes that the Final Office Action includes a discussion of the rejection of Claim 3. Accordingly, Appellant has provided a discussion of Claim 3 for the sake of completeness.

Claim 3 recites that “each of the deflectors includes a slanted upper portion that directs water into the reservoir portion.” Appellant notes, too, that as originally filed, Claim 3 included a typographical error wherein the letter “l” was omitted from the word “slanted”. Appellant noted this error in an amendment filed November 11, 2005, but the basis for the rejection of Claim 3 has not changed. Specifically, the Final Office Action at page 4, lines 19-22 provide:

Regarding claim 3, the upper portion of the wall element 49 is slated, as in designated for a specific purpose or action (see definition for slated in Merriam

Webster Collegiate Dictionary, 10th edition), for directing water into the reservoir portion created at the junction of wall elements 35 & 49 (see Fig. 2).

Appellant respectfully submits that the cited combination of references does not teach or suggest a plurality of deflectors, each with a slanted upper portion that directs water into a reservoir portion. As such, Applicant submits that the rejection of Claim 3 under 35 U.S.C. 103(a) cannot stand.

- Claim 7: Appellant notes that Claim 7 recites that “the deflectors are radially spaced apart from one another”, but that at page 3, lines 20-22 of the Final Office Action the Examiner has stated that “Chan discloses deflectors 26 that are radially spaced apart from one another such that water poured at the top of the device must come into contact with at least one other deflector 46.” Chan, however, shows no such configuration. In this regard, the deflector 26 and the disc deflectors 46 appear to be annular structures that are mounted onto the tube 30 and the pipe 50, respectively. Since the deflectors 26 and 46 extend continuously about the interior of the Chan device, they are not radially spaced apart from one another. As such, Applicant submits that the rejection of Claim 7 under 35 U.S.C. 103(a) cannot stand.

- Claim 18: Appellant notes that Claim 18 recites that the delivery unit includes an upper flange that extends outwardly from the housing proximate the open top of the delivery unit. As noted for Claim 1, above, the cited combination of references does not teach or suggest an upper flange. Furthermore, Appellant notes that the cited combination of references does not teach or suggest a plurality of deflectors that are spaced about a perimeter of the internal cavity; a plurality of deflectors that are configured to capture water; a plurality of deflectors

that direct captured water outwardly toward a wall member as recited in independent Claim 16, the claim from which Claim 18 depends. As such, Applicant submits that the rejection of Claim 18 under 35 U.S.C. 103(a) cannot stand.

- Claims 19 & 20: Appellant notes that Claim 19 recites that the delivery unit includes a lower flange that extends outwardly and upwardly from the housing. As noted for Claim 1, above, the cited combination of references does not teach or suggest an upper flange. Furthermore, Appellant notes that the cited combination of references does not teach or suggest a plurality of deflectors that are spaced about a perimeter of the internal cavity; a plurality of deflectors that are configured to capture water; a plurality of deflectors that direct captured water outwardly toward a wall member as recited in independent Claim 16, the claim from which Claim 19 depends. Appellant further notes that Claim 20 depends from Claim 19. As such, Applicant submits that the rejection of Claims 19 and 20 under 35 U.S.C. 103(a) cannot stand.

Claim 8: Rejections Based on Thomas et al., Chan, Baxter, Harrison & Ogi

Appellant incorporates by reference the discussion and analysis set forth above in the section entitled “Claims 1, 2, 4 through 7, 12, 14 and 18 through 20: Rejections Based on Thomas et al., Chan, Baxter & Harrison”.

Applicant next notes that the Ogi reference (hereinafter Ogi) discloses a deep root watering unit wherein individual units (10) include a sprinkler head (18 or 20) and that the sprinkler heads (18 or 20) may be connected to a pressurized

supply line (36). Applicant notes that the pressurized water supply line (36) does not facilitate fluid communication between the units (10) but rather simply delivers pressurized water to each of the sprinkler heads (18 or 20) from a common water source.

In contrast, Claim 8 recites that the system includes a second one of the delivery units and a fluid conduit that interconnects the delivery unit and the second one of the delivery units so that water may be transmitted between the delivery unit and the second one of the delivery units.

As noted above, the Federal Circuit has stated that “[the] mere fact the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification”. *In re Fritch*, 972 F.2d at 1266. Applicant submits that the Examiner has not established that the prior art shows the desirability of the connection of two of Appellant’s delivery units to a pressurized water source, and as such, there appears to be no suggestion or motivation in the prior art for the combination of these references. Moreover, even if the references were to be combined, Appellant notes that no water would be transmitted between the delivery units since the water in the supply line (36) is under pressure.

In view of the above remarks, Appellant respectfully submits that there is no motivation or suggestion in the art for the cited combination of references and that the cited combination of references does not teach or suggest each and every one of the limitations of Claim 8. Accordingly, Applicant respectfully

submits that the Examiner has not provided a *prima facie* case of obviousness and as such, the rejection of Claim 8 under 35 U.S.C. 103(a) cannot stand.

Claims 9 & 10: Rejections Based on Thomas et al.,

Chan, Baxter, Harrison, Ogi & Lynch

Appellant incorporates by reference the discussion and analysis set forth above in the sections entitled “Claims 1, 2, 4 through 7, 12, 14 and 18 through 20: Rejections Based on Thomas et al., Chan, Baxter & Harrison” and “Claim 8: Rejections Based on Thomas et al., Chan, Baxter, Harrison & Ogi”.

Applicant next notes that the Lynch reference (hereinafter Lynch) discloses a drain tile having an upper side (b) that is porous. The Examiner states in effect that the Lynch drain tile may be substituted for the piping that is used in the Ogi reference discussed in conjunction with Claim 8, above. Appellant notes, however, that as the water supply line (36) of the Ogi reference is pressurized, there can be no teaching or suggestion in the art for the modification, since the pressurized water would flow out of the pores of the drain tile, rather than collect in the conduit.

Accordingly, Applicant respectfully submits that the Examiner has not provided a *prima facie* case of obviousness and as such, the rejection of Claims 9 and 10 under 35 U.S.C. 103(a) cannot stand.

Claim 13: Rejections Based on Thomas et al.,

Chan, Baxter, Harrison, Ogi & Kanst

Appellant incorporates by reference the discussion and analysis set forth above in the section entitled “Claims 1, 2, 4 through 7, 12, 14 and 18 through 20: Rejections Based on Thomas et al., Chan, Baxter & Harrison”. Appellant notes that as Claim 13 depends from Claim 1, the rejection of Claim 13 under 35 U.S.C. §103(a) cannot stand for the same reasons as expressed for Claim 1, above.

Claim 16: Rejections Based on Thomas et al., Chan & Baxter

Appellant incorporates by reference the discussion and analysis set forth above in the section entitled “Claims 1, 2, 4 through 7, 12, 14 and 18 through 20: Rejections Based on Thomas et al., Chan, Baxter & Harrison”.

As noted for Claim 1, above, Appellant submits that the Examiner has not presented a *prima facie* case of obviousness in that there is no motivation or suggestion in the art for the cited combination of references, the Examiner has not provided a reasonable expectation of success, and the cited combination of references does not teach or suggest a plurality of deflectors that are spaced about a perimeter of the internal cavity; a plurality of deflectors that are configured to capture water; a plurality of deflectors that direct captured water outwardly toward a wall member. As such, Applicant submits that the rejection of Claim 16 under 35 U.S.C. 103(a) cannot stand.

Claim 21: Rejections Based on Thomas et al. & Harrison

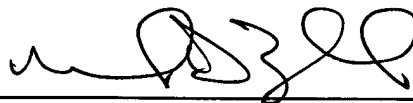
Appellant incorporates by reference the discussion and analysis set forth above in the section entitled "Claims 1, 2, 4 through 7, 12, 14 and 18 through 20: Rejections Based on Thomas et al., Chan, Baxter & Harrison".

As noted for Claim 1, above, Appellant submits that the Examiner has not presented a *prima facie* case of obviousness in that there is no motivation or suggestion in the art for the cited combination of references, the Examiner has not provided a reasonable expectation of success, and the cited combination of references does not teach or suggest an upper flange that extends outwardly from a housing proximate an open top, or a lower flange coupled to the housing and extending outwardly and upwardly from the housing. As such, Applicant submits that the rejection of Claim 21 under 35 U.S.C. 103(a) cannot stand.

CONCLUSION

Appellant respectfully submits that the Examiner has not presented a *prima facie* case of anticipation or obviousness. Accordingly, reversal of the final rejection of Claims 1 through 21 is respectfully requested.

Respectfully submitted,



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Date: 25 March 2005
MDZ/cr

Appendix A: Claims At Issue

1. (Original) A system for directing water, nutrients and air to a root system of a plant in the ground, the system comprising a delivery unit having:

an elongated, hollow housing that is adapted to be installed in a generally vertical orientation into the ground proximate the root system, the housing including a wall member that defines an internal cavity with an open top and an open bottom, the wall member being configured to permit water and air to be transmitted therethrough at least at a plurality of discrete points;

a plurality of deflectors spaced about a perimeter of the internal cavity, the deflectors being configured to capture at least a portion of a quantity of water poured into the open top when the delivery unit is installed in the ground, the deflectors being further configured to direct the captured water outwardly toward the wall member so that it may be passed therethrough;

an upper flange extending outwardly from the housing proximate the open top; and

a lower flange coupled to the housing, the lower flange extending outwardly and upwardly from the housing.

2. (Original) The system of Claim 1, wherein the deflectors include a reservoir portion that is adjacent the wall member, the reservoir portion being configured to hold an amount of water against the wall member.

3. (Previously Amended) The system of Claim 2, wherein each of the deflectors also includes a slanted upper portion that directs water into the reservoir portion.

4. (Original) The system of Claim 1, wherein a plurality of holes are formed into the wall member.

Appendix A: Claims At Issue

5. (Original) The system of Claim 1, wherein the wall member is formed of a porous material.

6. (Original) The system of Claim 1, wherein at least a portion of the deflectors are vertically spaced apart from one another.

7. (Original) The system of Claim 6, wherein the deflectors are radially spaced apart from one another such that the quantity of water that is poured into the open top must come into contact with at least one of the deflectors.

8. (Previously Amended) The system of Claim 1, further comprising a second one of the delivery units and a fluid conduit that interconnects the delivery unit and the second one of the delivery units so that water may be transmitted between the delivery unit and the second one of the delivery units.

9. (Original) The system of Claim 8, wherein the fluid conduit includes a porous upper portion and a lower portion that is less porous than the upper portion.

10. (Original) The system of Claim 9, wherein the lower portion is impermeable to water.

11. (Original) The system of Claim 8, wherein the wall member includes a plurality of perforations that cooperate to define an aperture that may be selectively formed in the wall member by punching out a portion of the wall member that is constrained by the perforations, the aperture being sized to receive the fluid conduit therethrough.

Appendix A: Claims At Issue

12. (Original) The system of Claim 1, further comprising a cap covering the open top, the cap being configured to permit water and air to be transmitted therethrough.

13. (Original) The system of Claim 12, further comprising a dip stick extending through the cap into the internal cavity of the housing.

14. (Original) The system of Claim 1, further comprising a mount that is coupled to the wall member, the mount being adapted to couple a water irrigating device to the housing.

15. (Original) The system of Claim 14, wherein the wall member includes a plurality of perforations that cooperate to define an aperture that may be selectively formed in the wall member by punching out a portion of the wall member that is constrained by the perforations, the aperture being sized to receive the water irrigating device therethrough.

16. (Previously Amended) A delivery unit for directing water, nutrients and air to a root system of a plant in the ground, the delivery unit comprising:

an elongated, hollow housing that is adapted to be installed in a generally vertical orientation into the ground proximate the root system, the housing including a wall member that defines an internal cavity with an open top and an open bottom, the wall member being configured to permit water and air to be transmitted therethrough at least at a plurality of discrete points; and

a plurality of deflectors spaced about a perimeter of the internal cavity, the deflectors being configured to capture at least a portion of a quantity of water poured into the open top when the delivery unit is installed in the ground and to direct the captured water outwardly toward the wall member so that it may be passed therethrough.

Appendix A: Claims At Issue

17. (Previously Amended) The delivery unit of Claim 16, wherein the deflectors further include a reservoir that is disposed between an upwardly sloped portion and the wall member.

18. (Original) The delivery unit of Claim 16, further comprising an upper flange that extends outwardly from the housing proximate the open top.

19. (Original) The delivery unit of Claim 16, further comprising a lower flange coupled to the housing, the lower flange extending outwardly and upwardly from the housing.

20. (Original) The delivery unit of Claim 19, wherein the lower flange is located proximate the open bottom of the housing.

21. (Original) A delivery unit for directing water, nutrients and air to a root system of a plant in the ground, the delivery unit comprising:

an elongated, hollow housing that is adapted to be installed in a generally vertical orientation into the ground proximate the root system, the housing including a wall member that defines an internal cavity with an open top and an open bottom, the wall member being configured to permit water and air to be transmitted therethrough at least at a plurality of discrete points;

an upper flange extending outwardly from the housing proximate the open top; and
a lower flange coupled to the housing, the lower flange extending outwardly and upwardly from the housing.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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27572 7590 01/26/2005

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EXAMINER

SALDANO, LISA M

ART UNIT PAPER NUMBER

3673

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/763,109

Examiner

Lisa M. Saldano

Applicant(s)

ALLEN, DAVID M.

Art Unit

3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-7, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al (5,975,797) in view of Chan (3,900,962) and Baxter (3,159,172) and Harrison (5,924,240).

Thomas et al disclose a subterranean water collection and delivery device and system for delivering water, nutrients and air to root areas of a plant (see abstract and column 5, lines 45-50). The system comprises a delivery device 10 wherein the device is elongated and hollow, with an embodiment that *excludes* an optional insert member 24 (see column 5, lines 38-40). The device is installed in a generally vertical orientation proximate the root system of a plant (see Fig.14). The device further includes a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member. The wall member 12 is manufactured with open top and bottom. Furthermore, top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of apertures 72,82 located

therein. The optional insert member, when used, is located in the internal cavity and is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant.

Regarding claim 4, Thomas et al disclose a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member.

Regarding claim 12, Thomas et al disclose a top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of apertures 72,82 located therein.

Regarding claim 14, Thomas et al disclose a water coupling assembly 26 that functions as a mount adapted to be coupled to a water irrigating device.

However, Thomas et al fail to disclose a plurality of deflectors with capturing portions for collection and delivery of water, air and nutrients to the root areas of a plant. Thomas et al also fail to disclose an upper flange and lower flange coupled to the wall member housing.

Chan discloses an underground fertilizer device comprising a plurality of deflectors 26 for communicating water outside of aperture 34 to eventually reach soil adjacent to plant-roots. Chan further discloses deflectors or distributors 46 whereby water and fertilizing nutrients are deflected from distributors 46 through to apertures 52,54 for exiting into the ground adjacent plant roots (see Fig. 1 and column 1, line 63 through column 2, line 30).

Regarding claim 6, Chan discloses deflectors are vertically spaced apart from one another.

Regarding claim 7, Chan discloses deflectors 26 that are radially spaced apart from one another such that water poured at the top of the device must come into contact with at least one other deflector 46.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to incorporate deflector for delivering water and nutrients to earth, as taught by Chan. Thomas et al disclose an options insert located in the internal cavity of the delivery device that is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant. Thomas et al further disclose that the inventions may be used without the insert. Chan disclose the use of deflectors in a fertilizer delivery device wherein water and fertilizer are delivered to the ground through a housing with apertures wherein the water and nutrients are deflected out of the housing and into the ground via a plurality of deflectors. It would have been obvious to substitute the insert of Thomas et al with the deflectors of Chan because they both provide the function of delivering water and nutrients from the internal cavity of a housing, through apertures, and finally to ground adjacent to plant roots.

Baxter discloses a fluid dispensing device 9 for hydrant or irrigation water distributing systems for the ground. Baxter discloses a deflector made from wall elements 35&49 (see Fig. 2), wherein the wall elements are used for capturing and directing water that is poured into the top of a riser 20 outwardly of the riser's wall member 21. The riser is used to deliver water for irrigating the ground (see Fig.1).

Regarding claim 2, the wall elements 35&49 of Baxter form a reservoir configured to hold an amount of water against the wall member 21 of housing or riser 20 (see Fig.2).

Regarding claim 3, the upper portion of wall element 49 is slated, as in designated for a specific purpose or action (see definition for slated in Merriam Webster Collegiate Dictionary, 10th edition), for directing water into the reservoir portion created at the junction of wall elements 35&49 (see Fig.2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to incorporate the plurality of deflector devices, as taught by Chan, and the capture and delivery deflector feature, as taught by Baxter, because all three inventions are directed to the delivery of water and/or nutrients to a body of earth adjacent plant roots. Each inventions illustrates a different way to deliver water to plant roots in the ground, thereby providing sufficient motivation to substitute and/or combine either of the inventions' methods of fluid delivery with each other.

Harrison discloses a device to water and fertilize plant roots comprising an elongated, hollow housing 2 with holes 10 for providing water and liquid nutrients to flow there through. Harrison further discloses upper and lower flanges at elements 4,8, whereby the flanges extend outwardly and upwardly from the housing 2 (see Figs.1&2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to include the upper and lower flanges, as taught by Harrison because the flanges extend outwardly of the housing disclosed by Harrison and thereby help to retain and maintain the water and fluid nutrients emitted by the delivery housing within a particular zone around the housing, preferably a predetermined area of soil in a root zone of existing plants.

Furthermore, regarding claim 5, as mentioned above, Thomas et al disclose the optional insert member that, when used, is located in the internal cavity and is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant. It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate the wall member 12 with apertures 22, taught by Thomas et al, from a porous material such as the porous material 24 that

Art Unit: 3673

delivers water to the root zone of a body of earth, as also taught by Thomas et al, because Thomas et al disclose that the wall member 12 may be formed from a rigid or a flexible material (see column 5, lines 15-20). As long as the substituted porous material allows the invention to function as intended, any flexible or rigid material that allows for water flow there through is a mechanically equivalent functioning substitute.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al in view of Chan and Baxter and Harrison, as applied to claim 1 above, in further view of Ogi (6,540,436).

Thomas et al, Chan, Baxter and Harrison disclose the features as described above.

However, Thomas et al, Chan, Baxter and Harrison fail to disclose two delivery units with a conduit interconnecting them.

Ogi discloses at least two deep-root watering devices 10 with branch conduits 34 and underground irrigation water supply lines 36 interconnecting the two deep-root watering devices 10.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide interconnecting conduits for connecting a plurality of delivery devices, as taught by Thomas et al, to one another as well as to irrigation/fertilizations systems because a plurality of devices may be needed to cover larger areas of soil containing plant roots, as taught by Ogi.

Art Unit: 3673

4. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al in view of Chan and Baxter and Harrison, in further view of Ogi, and in further view of Lynch (271,089).

Thomas et al, Chan, Baxter, Harrison and Ogi disclose the features as described above.

However, Thomas et al, Chan, Baxter, Harrison and Ogi fail to disclose fluid conduits with a porous upper portion and less porous lower portion.

Lynch discloses a drain tile comprising a porous upper portion *b* and a less porous lower portion *c* (see Figs.1&2).

Regarding claim 10, the bottom of the drain pipe *c* is impermeable.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the piping of the delivery system of Thomas et al as modified by Ogi, because Ogi clearly illustrates the use of piping for conveying liquid through an irrigation and aeration system and Thomas et al disclose water/fertilizer delivery systems for use in such irrigation and aeration systems. The use of a drainage tile as disclosed by Ogi with perforations in the top of the pipe allow water adjacent to the pipe to be drained into the pipe for subsequent distribution right into the plant's root zone, which is performed by the delivery systems themselves.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al in view of Chan and Baxter and Harrison, as applied to claim 12 above, in further view of Kanst (1,280,486).

Thomas et al, Chan, Baxter and Harrison disclose the features as described above.

However, Thomas et al, Chan, Baxter and Harrison fail to disclose a dipstick.

Kanst discloses a tree irrigator 3 comprising a rod 9 extending through cap 8 and into the internal cavity of the housing of the irrigator 3.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Thomas et al to incorporate the rod, as taught by Kanst, because the rod may be used as a dipstick to gauge the level of liquid or lack thereof within the system.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al (5,975,797) in view of Chan (3,900,962) and Baxter (3,159,172).

Thomas et al disclose a subterranean water collection and delivery device and system for delivering water, nutrients and air to root areas of a plant (see abstract and column 5, lines 45-50). The system comprises a delivery device 10 wherein the device is elongated and hollow, with an embodiment that *excludes* an optional insert member 24 (see column 5, lines 38-40). The device is installed in a generally vertical orientation proximate the root system of a plant (see Fig.14). The device further includes a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member. The wall member 12 is manufactured with open top and bottom. Furthermore, top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of apertures 72,82 located therein. The optional insert member, when used, is located in the internal cavity and is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant. Thomas et al disclose a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member. Thomas et al disclose a top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of

Art Unit: 3673

apertures 72,82 located therein. Thomas et al disclose a water coupling assembly 26 that functions as a mount adapted to be coupled to a water irrigating device.

However, Thomas et al fail to disclose a plurality of deflectors with sloped and capturing portions for collection and delivery of water, air and nutrients to the root areas of a plant.

Chan discloses an underground fertilizer device comprising a plurality of deflectors 26 for communicating water outside of aperture 34 to eventually reach soil adjacent to plant-roots. Chan further discloses deflectors or distributors 46 whereby water and fertilizing nutrients are deflected from distributors 46 through to apertures 52,54 for exiting into the ground adjacent plant roots (see Fig. 1 and column 1, line 63 through column 2, line 30). Chan discloses deflectors are vertically spaced apart from one another. Chan discloses deflectors 26 that are radially spaced apart from one another such that water poured at the top of the device must come into contact with at least one other deflector 46.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to incorporate deflector for delivering water and nutrients to earth, as taught by Chan. Thomas et al disclose an options insert located in the internal cavity of the delivery device that is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant. Thomas et al further disclose that the inventions may be used without the insert. Chan disclose the use of deflectors in a fertilizer delivery device wherein water and fertilizer are delivered to the ground through a housing with apertures wherein the water and nutrients are deflected out of the housing and into the ground via a plurality of deflectors. It would have been obvious to substitute the insert of Thomas et al with the deflectors

of Chan because they both provide the function of delivering water and nutrients from the internal cavity of a housing, through apertures, and finally to ground adjacent to plant roots.

Baxter discloses a fluid dispensing device 9 for hydrant or irrigation water distributing systems for the ground. Baxter discloses a deflector made from wall elements 35&49 (see Fig. 2), wherein the wall elements are used for capturing and directing water that is poured into the top of a riser 20 outwardly of the riser's wall member 21. The riser is used to deliver water for irrigating the ground (see Fig.1). The wall elements 35&49 of Baxter form a reservoir configured to hold an amount of water against the wall member 21 of housing or riser 20 (see Fig.2). The upper portion of wall element 49 is slated, as in designated for a specific purpose or action (see definition for slated in Merriam Webster Collegiate Dictionary, 10th edition), for directing water into the reservoir portion created at the junction of wall elements 35&49 (see Fig.2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to incorporate the plurality of deflector devices, as taught by Chan, and the capture and delivery deflector feature, as taught by Baxter, because all three inventions are directed to the delivery of water and/or nutrients to a body of earth adjacent plant roots. Each inventions illustrates a different way to deliver water to plant roots in the ground, thereby providing sufficient motivation to substitute and/or combine either of the inventions' methods of fluid delivery with each other.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to incorporate the plurality of deflector devices, as taught by Chan, and the capture and delivery deflector feature, as taught by Baxter,

Art Unit: 3673

with the wall element being sloped as desired because sloping the wall element of Baxter would increase the volume of water captured by the deflector's water-capturing portion.

7. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al in view of Chan and Baxter, as applied to claim 16 above, in further view of Harrison (5,924,240).

Thomas et al, Chan and Baxter disclose the features as described above.

However, Thomas et al, Chan and Baxter fail to disclose an upper flange and lower flange coupled to the wall member housing.

Harrison discloses a device to water and fertilize plant roots comprising an elongated, hollow housing 2 with holes 10 for providing water and liquid nutrients to flow there through. Harrison further discloses upper and lower flanges at elements 4,8, whereby the flanges extend outwardly and upwardly from the housing 2 (see Figs.1&2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to include the upper and lower flanges, as taught by Harrison because the flanges extend outwardly of the housing disclosed by Harrison and thereby help to retain and maintain the water and fluid nutrients emitted by the delivery housing within a particular zone around the housing, preferably a predetermined area of soil in a root zone of existing plants.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al (5,975,797) in view of Harrison (5,924,240).

Thomas et al disclose a subterranean water collection and delivery device and system for delivering water, nutrients and air to root areas of a plant (see abstract and column 5, lines 45-50). The system comprises a delivery device 10 wherein the device is elongated and hollow, with an embodiment that *excludes* an optional insert member 24 (see column 5, lines 38-40). The device is installed in a generally vertical orientation proximate the root system of a plant (see Fig.14). The device further includes a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member. The wall member 12 is manufactured with open top and bottom. Furthermore, top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of apertures 72,82 located therein. The optional insert member, when used, is located in the internal cavity and is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant. Thomas et al disclose a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member. Thomas et al disclose a top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of apertures 72,82 located therein. Thomas et al disclose a water coupling assembly 26 that functions as a mount adapted to be coupled to a water-irrigating device.

However, Thomas et al also fail to disclose an upper flange and lower flange coupled to the wall member housing.

Harrison discloses a device to water and fertilize plant roots comprising an elongated, hollow housing 2 with holes 10 for providing water and liquid nutrients to flow there through.

Art Unit: 3673

Harrison further discloses upper and lower flanges at elements 4,8, whereby the flanges extend outwardly and upwardly from the housing 2 (see Figs.1&2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to include the upper and lower flanges, as taught by Harrison because the flanges extend outwardly of the housing disclosed by Harrison and thereby help to retain and maintain the water and fluid nutrients emitted by the delivery housing within a particular zone around the housing, preferably a predetermined area of soil in a root zone of existing plants.

Allowable Subject Matter

9. Claims 3, 11, 15 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed on November 11, 2004, with respect to claims 3, 11, 15 and 17 have been fully considered and are persuasive. The rejections of claims 3, 11, 15 and 17 have been withdrawn.

11. Applicant's arguments filed on November 11, 2004 regarding all claims with the exception of claims 3, 11, 15 and 17, have been fully considered but they are not persuasive.

Specifically, in response to the applicant's arguments on page 11 of 19 regarding the fact that the cited references disclose the distribution of water and nutrients into the soil vertically, in

contrast the applicant's disclosure, the examiner contends that the cited references distribute water into root system the ground. The fact that they may do so with vertically directed water/nutrients as opposed to horizontally directed water/nutrients is outside the scope of the claims which merely claim direction of water/nutrients to root systems.

In response to the applicant's arguments on page 11 of 19 regarding the Baxter patent wherein the applicant argues that the Baxter patent does not disclose a device for directing water, nutrients and air to a root system, the examiner disagrees. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the Baxter reference clearly states that the fluid dispensing device is for irrigation distributing systems (see Baxter '172, column 1). As such, the term irrigation is well within the art of providing water, nutrients and air to a root system and is fully considered analogous art.

In response to the applicant's arguments on page 12 of 19 regarding incorporation of deflector and disc distributors, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

In response to the applicant's arguments on page 13 of 19 regarding incorporation of a wall member and blockage of air and water for free movements, the test for obviousness is not

Art Unit: 3673

whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

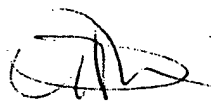
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Saldano whose telephone number is 703-605-1167. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

Art Unit: 3673

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 703-308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lms



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